PW FORM

FOR UTILITY/DESIGN CIP/PCT NATIONAL/PLANT ORIGINAL/SUBSTITUTE/SUPPLEMENTAL DECLARATIONS

RULE 63 (37 C.F. _____.63) DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED: A FLIP-CHIP PACKAGE

NTEGRATING C	PTICAL	AND ELE	CTRICAL DEVICES AND	COUPLING	ight on the <u>INVENTION EN</u> G TO A WAVEGUIDE ON	HIILED: A. A BOARD	FLIP-CHIP PACKAC	3E
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→ and (if applicable			<u>plication)</u> was amended or		No. PC17			
hereby state that I bowe. I acknowled preign priority bene application which d ertificate, or PCT I	have revieusly the durant tender designated internation	ewed and use to disclose 35 U.S.C. at least one al Application	nderstand the contents of the se all information known to me 119(a)-(d) or 365(b) of any for e other country than the United	above identification to be material align application of the states, listed disclosing the states of	ed specification, including the il to patentability as defined in on(s) for patent or inventor's ce d below and have also identific e subject matter claimed in thi ng date of this application:	37 C.F.R. 1.56. rtificate, or 365 d below any for	Except as noted below (a) of any PCT Internat beign application for pat	w, I hereby claim ional ent or inventor's
PRIOR FOREIGI Number		CATION(S	Day/MONTH/Yea	ar Filed	Date first Laid- open or Published	Date Pat or G		NOT Claimed
except as noted be	low, I here	by claim do	ox at bottom and continue o	5 U.S.C. 119	ago. (e) or 120 and/or 365(c) of the eart (CIP) application, insofar a	Indicated Unite	d States applications li	sted below and
application is In add	dition to the	at disclosed	I in such prior applications, I a	cknowledge th	ne duty to disclose all informat ch prior application and the na	on known to me	e to be material to pate	ntability as 💎
PRIOR U.S. PRO Application No.			PROVISIONAL AND/OR P al no.) Day/MON	CT APPLIC TH/Year File		<u>Status</u> . abandoned		NOT Claimed
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this application and names/numbers be organization who/v	to transace slow of per which first s	ct all busine sons no lon sends/sent t	ss in the Patent and Tradema iger with their firm and to act a	rk Office conr ind rely on ins n/which I here	ersons (of the same address) in ected therewith and with the retructions from and communicately declare that I have consent Sean Fitzgerald	esulting patent, te directly with ed after full disc	and I hereby authorize the person/assignee/at	them to delete torney/firm/
George M. Sirilla		18221	Robert D. Anderson	33826	Leo V. Novakoski	37198	Peter Lam	44855
Alan K. Aldous		31905	Cynthia Thomas Faatz	39973	Mark Seeley		Gene I. Su	45140
Jeffrey S. Draeg	er	41000	Charles A. Mirho	41 199 43 40 E	Raymond J. Werner		Seth Z. Kalson	40670 39320
David J. Kaplan Thomas C. Reyr	noide	41105 32488	Kenneth M. Seddon Steven C. Stewart	43105 33555	Calvin E. Wells Evan Finkei		Naomi Obinato Steven C. Skabrat	36279
loward A. Skais		36008	Thomas Raleigh Lane	42781	W. Patrick Bengtsson		Robert G. Winkle	37474
Charles K. Youn		39435	Mark G. Paulson	30793	Jack S. Barufka	37087	Robin L. Teskin	35030
Dale S. Lazar		28872	Stephen C. Glazier	31361	Adam R. Hess		Anthony L. Miele	34393
Gienn J. Perry		28458	Paul F. McQuade	31542	William P. Atkins	38821	Robert J. Walters	40862
G. Paul Edgell Roger R. Wise		24238 31204	Richard H. Zaitlen Joseph R. Bond	27248 36458	Paul L. Sharer Richard C. Calderwood	36004 35468	Jeffrey D. Karceski Eric S. Chen	35914 43542
Charanjit Brahm	а	46574	•	47520	James M. Wakely	48597	Joel B. German	48676
1) INVENTOR'S			Cishae Kumas		MINUTE Date	- 1 - 1	102_	
	Kisho		l P		CHAKRAVOR*	TY	,	
				Middle Ini			ly Name	
Residence	San J			Californi		US		eren er
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(2) INVENTOR'	S SIGNA	TURE:			Date			
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Pocidopoo	T 6 W	- d - l -	First	Middle Initia	ii		ly Name	
Residence	Scotts	suaie		Arizona		US		00000000000000000000000000000000000000
			Caty		State/Foreign Country		Country of Citiz	enship
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(include Zip Cod	le)		85255					
FOR ADDITI	ONAL	NVENT	ORS, "X" box ☐ and	d proceed	on the attached page	e to list eac	h additional inve	entor.
					rporated herein by ref	erence).	PW 81674-2497	

(1) INVENTOR	R'S SIGNATURE:	()		D	``)
1.7	Brandon		C.	BARNETT	
		First	Middle Initia	1	Family Name
Residence	Beaverton		Oregon		USA
		City	S	iate/Foreign Country	Country of Citizenship
Post Office Ad	Idress	10620 SW 0	Oriole Circle		
(include Zip C	ode)	97007			
(2) INVENTO	R'S SIGNATURE:			Date:	
	Joseph		F.	AHADIAN	
		First	Middle Initial		Family Name
Residence	Carlsbad		California		USA
		Caty	· ·	State/Foreign Country	Country of Citizenship
Post Office Ad	idress	2327 Paseo	Saucedal		
(include Zip Code) 92009					
(1) INVENTO	R'S SIGNATURE:			Date:	
1.7	Thomas		P.	THOMAS	
		First	Middle Initia	d	Family Name
Residence	Beaverton		Oregon		USA
		City		State/Foreign Country	Country of Citizenship
Post Office A	ddress	17337 NW	Gold Canyon Lane		
(include Zip C	ode) .	97006			
(2) INVENTO	R'S SIGNATURE:			Date:	
	lan			YOUNG	
		First	Middle Initial		Family Name
Residence	Portland		Oregon		Australia
		Caty		State/Foreign Country	Country of Citizenship
Post Office A	ddress	3181 NW 1	14 th Terrace		
(include Zip C	ode)	97229		47.8	

FOR UTILITY/DESIGN CIP/PCT NATIONAL/PLANT ORIGINAL/SUBSTITUTE/SUPPLEMENTAL **DECLARATIONS**

RULE 63 (37 C.F(1).63) DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I b

helow) of the sub	iect matter which	ole inventor (if only one name is claimed and for which a p	atent is sou	aht on the <u>INVENTION ENT</u>	<u>ITLED: A FLI</u>	(if plural names are P-CHIP PACKAGE	listed
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the X	specification of wh A. 🔯 is attached	hich (CHECK applicable BO)	((E2))		,		
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and (if applicable	to U.S. or PCT a	oplication) was amended on	h Id16	d anadification, including the ele	ime as amanda	d by one omendment	referred to
above Lacksoude	doe the duty to discle	se all information known to me	to be material	ed specification, including the cla to patentability as defined in 37	C.F.R. 1.56. Ex	cept as noted below,	hereby claim
foreign priority bon	office under 35 LLS C	119(a)_(d) or 365(b) of any fore	ion applicatio	n(s) for patent or inventor's certi	ficate, or 365(a)	of any PCT Internation	al
Application which o	lesignated at least of	ne other country than the United	States, listed	below and have also identified a subject matter claimed in this a	below any toreig application and h	n application for paten aving a filing date (1) i	t or inventors before that of
the application on	which priority is claim	ned, or (2) if no priority claimed,	before the filir	ng date of this application:	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	cuing a mining cano (1)	
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	N APPLICATION	<u>S)</u> Day/MONTH/Yea	r Filed	<u>Date first Laid-</u> open or Published	Date Paten or Gran		OT Claimed
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M more prior forei	an applications X i	oox at bottom and continue o	n attached pa	age.			
Execution noted he	low I hereby claim	tomestic priority benefit under 3	5 U.S.C. 1190	e) or 120 and/or 365(c) of the in	dicated United S	tates applications liste	d below and
PCT international	applications listed ab	ove or below and, if this is a con	tinuation-in-p	art (CIP) application, insofar as se duty to disclose all information	the subject matt	er disclosed and claim he material to natent:	ed in this shility as
defined in 37 C.F.F	R. 1.56 which became	e available between the filing da	te of each su	ch prior application and the nation	onal or PCT inter	national filing date of t	his
application:		_					
PRIOR U.S. PR	OVISIONAL, NON	PROVISIONAL AND/OR P	CT APPLIC	ATION(S)	Status	Priority N	OT Claimed
Application No.	(series code/ser	ial no.) Day/MON]	H/Year File	ed pending.	abandoned, p	atented	
t horoby declare th	at all statements ma	de herein of my own knowledge	are true and	that all statements made on info	rmation and beli	ef are believed to be t	ue; and
further that these s	statements were mad	e with the knowledge that willful	l fatse statem	ents and the like so made are pu	ınishable by fine	or imprisonment, or b	oth, under
Section 1001 of Ti	tle 18 of the United S	tates Code and that such willful	false stateme	ents may jeopardize the validity	of the applicatio	n or any patent issued	thereon.
And I hereby appo	int Pillsbury Winthro	LLP, Intellectual Property Grou	ıp, 725 S. Fig	ueroa Street, Suite 2800, Los A	ngeles, CA 9001	17-5406, telephone nu	mber (213)
488.7100 (to what	n all communications	are to be directed), and the bel	ow-named pe	ersons (of the same address) inc	lividually and col	lectively my attorneys	to prosecute
this application an	d to transact all busir	ness in the Patent and Tradema noner with their firm and to act a	nk Office conf nd rely on ins	nected therewith and with the restructions from and communicate	sutting patent, an e directly with the	o i nereby authorize ti person/assignee/atto	ney/firm/
organization who/	which first sends/sen	t this case to them and by whom	which I here	by declare that I have consented	d after full disclo	sure to be represented	unless/until I
instruct the above	Firm and/or a below	attomey in writing to the contrat	у.			mes R. Thein	31710
G. Lloyd Knight		David A. Jakopin Robert D. Anderson	32995 33826	Sean Fitzgerald Leo V. Novakoski		eter Lam	44855
George M. Sirilla Alan K. Aldous	31905	Cynthia Thomas Faatz	39973	Mark Seeley		ene I. Su	45140
Jeffrey S. Draeg		Charles A. Mirho	41199	Raymond J. Werner		eth Z. Kalson	40670
David J. Kaplan		Kenneth M. Seddon	43105	Calvin E. Wells		aomi Obinato even C. Skabrat	39320 36279
Thomas C. Rey		Steven C. Stewart Thomas Raleigh Lane	33555 42781	Evan Finkel W. Patrick Bengtsson		obert G. Winkle	37474
Howard A. Skai Charles K. You		Mark G. Paulson	30793	Jack S. Barufka		obin L. Teskin	35030
Dale S. Lazar	28872	Stephen C. Glazier	31361	Adam R. Hess		nthony L. Miele	34393
Glenn J. Perry	28458	Paul F. McQuade	31542	William P. Atkins		obert J. Walters	40862 35914
G. Paul Edgell	24238 31204	Richard H. Zaitlen	27248 36458	Paul L. Sharer Richard C. Calderwood		effrey D. Karceski ric S. Chen	43542
Roger R. Wise Charanjit Brahn		Joseph R. Bond Kevvan Davoudian	47520	James M. Wakely		el B. German	48676
	S SIGNATURE:			Date:			
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		First 1	Middle Ini	tial	Family	Name	
Residence	San Jose		Californi		USA		
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(2) INVENTOR	S SIGNATURE:	Schann	na Z	Livar_ Date:	5-0	6-2002	
(2) 11002.01.50	Johanna	7,000		SWAN			
	Locialita	First	Middle Initi		Family	Name	
Posidonas	Cochadala				I USA		
Residence	Scottsdale_		Arizona				
		Caty		State/Foreign Country		Country of Citize	ыф
Post Office Add		19815 N. 84 th Way	-				
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				I on the attached page		additional inve	ntor.
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	J., 1		-	Atty. D	Okt. No. P	W 81674-24978	2

(M#)

(1) INVENTOR	'S SIGNATURE:			D (Th	
(I) INVENTOR	Brandon		C.	BARNETT	
		First	Middle Initial		Family Name
Residence	Beaverton		Oregon		USA
		City	St	ate/Foreign Country	Country of Citizenship
Post Office Add	dress	10620 SW Orio	ole Circle		
(include Zip Co	ode)	97007			·
(2) INVENTOR	R'S SIGNATURE:			Date:	
(2) 110 210 101	Joseph		F.	AHADIAN	
		First	Middle Initial		Family Name
Residence	Carlsbad		California		USA
		Caty	S	tate/Foreign:Country	Country of Citizenship
Post Office Ad	ldress	2327 Paseo S	aucedal		
(include Zip Code) 92009					
(4) IND/ENITOR	R'S SIGNATURE:			Date:	
(1) INVENTOR	Thomas		P.	THOMAS	
		First	Middle Initia	1	Family Name
Residence	Beaverton		Oregon		USA
		City	9	State/Foreign Country	Country of Citizenship
Post Office Ac	idress	17337 NW Go	old Canyon Lane		
(include Zip C	ode)	97006			
(2) INVENTO	R'S SIGNATURE:			Date:	
(2) 1147214101	lan			YOUNG	
		First	Middle Initial		Family Name
Residence	Portland		Oregon		Australia
		Caty		State/Foreign Country	Country of Citizenship
Post Office A	ddress	3181 NW 114	th Тептасе		<u> </u>

FOR UTILITY/DESIGN CIP/PCT NATIONAL/PLANT ORIGINAL/SUBSTITUTE/SUPPLEMENTAL **DECLARATIONS**

RULE 63 (37 C.F(DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I b

helow) of the sub-	ect matter which i	s claimed and for which a p	atent is sou	pelow) or an original, first and ight on the <u>INVENTION ENT</u>	TLED: A	itor (if plural names are FLIP-CHIP PACKAGE	listed
INTEGRATING C	PTICAL AND EL	ECTRICAL DEVICES AND	COUPLING	TO A WAVEGUIDE ON A	BOARD		
	pecification of wh	ich (CHECK applicable BO	X(ES)_)				
X	A. is attached			na II S. Anniication No.	,		
BOX(ES)	B. was filed or	POT International Am	-liesties	as U.S. Application No. No. PCT/ /			
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and (if applicable	to U.S. or PC Lar	plication) was amended or	ahove identifi	ed specification, including the cla	ims as ame	ended by any amendment to	eferred to
above. I acknowled foreign priority bene Application which d certificate or PCT I	ige the duty to disclo fits under 35 U.S.C. esignated at least on nternational Applicat	se all information known to me 119(a)-(d) or 365(b) of any force e other country than the United	to be materia eign application I States, listed disclosing the	I to patentability as defined in 37 on(s) for patent or inventor's certi I below and have also identified e subject matter claimed in this a	C.F.R. 1.56 ficate, or 365 below any fo	 Except as noted below, I i(a) of any PCT Internations reign application for patent 	hereby claim al or inventor's
DRIOR EODEIGI	N APPLICATION	S)		Date first Laid-	Date Pa	tented	
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And I hereby appoid 488-7100 (to whom this application and names/numbers be organization who/w instruct the above IG. Lloyd Knight George M. Sirilla Alan K. Aldous Jeffrey S. Draeg David J. Kaplan Thomas C. Reyr Howard A. Skais Charles K. Youn Dale S. Lazar Glenn J. Perry G. Paul Edgell Roger R. Wise	nt Pillsbury Winthrop a all communications to transact all busin- slow of persons no lo which first sends/sent Firm and/or a below s 17698 18221 31905 er 41000 41105 aolds 32488 at 36008 g 39435 28872 28458 24238 31204	LLP, intellectual Property Gro are to be directed), and the be ess in the Patent and Tradema neer with their firm and to act a	up, 725 S. Fig low-named po rk Office cont and rely on ins n/which I here	ents may jeopardize the validity of the same address) inducted therewith and with the restructions from and communicate by declare that I have consented by declare that I have consented Sean Fitzgerald Leo V. Novakoski Mark Seeley Raymond J. Werner Calvin E. Wells Evan Finkel W. Patrick Bengtsson Jack S. Barufka Adam R. Hess William P. Atkins Paul L. Sharer Richard C. Calderwood James M. Wakely	ngeles, CA ! lividually and sulting patent directly with	90017-5406, telephone nun I collectively my attorneys to I, and I hereby authorize the I the person/assignee/attorn	nber (213) o prosecute em to delete ney/firm/
Charanjit Brahm (1) INVENTOR'S	a 405/4	Keyvan Davoudian	4/520	Date:	40397	Joel B. German	40070
(1) HAREIALOK	Kishore	P	·	CHAKRAVORT	Y		
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		First	Middle Ini			mily Name	
Residence	San Jose		Californi	a	ΙU	SA .	
		City		State/Foreign Country		Country of Citizens	hip
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(2) INVENTOR'S		· · · · · · · · · · · · · · · · · · ·		SWAN Date:		 	
	Johanna				000000000)
		First	Middle Initi	al		mily Name	
Residence	Scottsdale		Arizona		U	SA	
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(M#)

(1) INVENTOR	'S SIGNATURE:	ROOTS	垃	D(4/2	3/02
(I) HOURISTON	Brandon		C.	BARNETT	
		First	Middle Initial		Family Name
Residence	Beaverton		Oregon		USA
		City	Stat	e/Foreign Country	Country of Citizenship
Post Office Ad	dress	10620 SW Oriol	e Circle		
(include Zip Co	ode)	97007			
(2) INVENTOR	R'S SIGNATURE:			Date:	
(2) 110 210 01	Joseph		F.	AHADIAN	
		First	Middle Initial		Family Name
Residence	Carlsbad		California		USA
		City	Sta	e/Foreign Country	Country of Citizenship
Post Office Ad	Idress	2327 Paseo Sa	ucedal		
(include Zip C	ode)	92009			
(1) INVENTO	R'S SIGNATURE:	Thomas P.	Thomas	Date: 5	14/02
	Thomas		P	THOMAS	
		First	Middle Initial		Family Name
Residence	Beaverton		Oregon		USA INDIA
		City	Sta	te/Foreign Country	Country of Citizenship
Post Office Ac	ddress	17337 NW Gold	Canyon Lane		
(include Zip C	ode)	97006			-1 /
(2) INVENTO	R'S SIGNATURE:	Yan Kyorera		Date:	5/14/02
(2),,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	lan	0 0		YOUNG	
		First	Middle Initial		Family Name
Residence	Portland		Oregon		Australia- USA
		City		te/Foreign Country	Country of Citizenship
Post Office A	ddress	3181 NW 114 th	Terrace		· · · · · · · · · · · · · · · · · · ·
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FOR UTILITY/DESIGN CIP/PCT NATIONAL/PLANT ORIGINAL/SUBSTITUTE/SUPPLEMENTAL DECLARATIONS

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RULE 63 (37 C.F.R. 1.63) DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PW FORM

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed

below) of the sub	ject matter	which is	claimed and for which a	patent is sou	ight on the <u>INVENTION E</u> TO A WAVEGUIDE ON	NTITLED: A	FLIP-CHIP PACKAGE	e listeu
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hereby state that I above. I acknowled foreign priority bene Application which d certificate, or PCT I	have review dge the duty efits under 35 lesignated at International	red and un to disclose 5 U.S.C. 1 least one Application	derstand the contents of the all information known to m 19(a)-(d) or 365(b) of any fo other country than the Unite	e above identificate to be material oreign application of States, listed the disclosing the	ed specification, including the to patentability as defined in n(s) for patent or inventor's c below and have also identification in the subject matter claimed in the g date of this application:	37 C.F.R. 1.5 ertificate, or 36 ed below any 1	 Except as noted below, 55(a) of any PCT Internation foreign application for paten 	I hereby claim nal it or inventor's
PRIOR FOREIGI				oos Filad	Date first Laid-		atented Granted Briggity N	OT Claimed
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Except as noted be PCT international a application is in add	low, I hereby pplications li dition to that	claim dor sted abow disclosed	e or below and, if this is a coin such prior applications, I	35 U.S.C. 119(ontinuation-in-pa acknowledge th	ide. e) or 120 and/or 365(c) of the art (CIP) application, insofar e duty to disclose all informa ch prior application and the n	as the subject tion known to i	matter disclosed and claim me to be material to patenta	ed in this ability as
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G. Lloyd Knight	1	7698	David A. Jakopin	32995	Sean Fitzgerald	32027	James R. Thein	31710
George M. Sirilla		8221	Robert D. Anderson	33826	Leo V. Novakoski	37198	Peter Lam	44855 45140
Alan K. Aldous Jeffrey S. Draege		31905 11000	Cynthia Thomas Faatz Charles A. Mirho	39973 41 199	Mark Seeley Raymond J. Werner	32299 34752	Gene I. Su Seth Z. Kalson	45140 40670
David J. Kaplan		11105	Kenneth M. Seddon	43105	Calvin E. Wells	43256	Naomi Obinato	39320
Thomas C. Reyn	olds 3	32488	Steven C. Stewart	33555	Evan Finkel	49059	Steven C. Skabrat	36279
Howard A. Skais		36008	Thomas Raleigh Lane	42781	W. Patrick Bengtsson	32456	Robert G. Winkle	37474
Charles K. Young	-	39435	Mark G. Paulson	30793	Jack S. Barufka	37087	Robin L. Teskin	35030
Dale S. Lazar Glenn J. Perry		28872 28458	Stephen C. Glazier Paul F. McQuade	31361 31542	Adam R. Hess William P. Atkins	41835 38821	Anthony L. Miele Robert J. Walters	34393 40862
G. Paul Edgell		24238	Richard H. Zaitlen	27248	Paul L. Sharer	36004	Jeffrey D. Karceski	35914
Roger R. Wise		31204	Joseph R. Bond	36458	Richard C. Calderwood		Eric S. Chen	43542
Charanjit Brahma		16574	Keyvan Davoudian	47520	James M. Wakely	48597	Joel B. German	48676
(1) INVENTOR'S			· · · · · · · · · · · · · · · · · · ·	• •	Date			
	Kishore			K.	CHAKRAVOR	1 Y		
			irst	Middle Init			mily Name	
Residence	San Jos	se		California	3	<u> </u>	ISA	
			City		State/Foreign Country		Country of Citizen	ship
Post Office Addre	ess		6407 Berwickshire	Way	•			
(include Zip Code	e)		95120					· -
(2) INVENTOR'S	SIGNATU	RE:			Date	:	· · · · · · · · · · · · · · · · · · ·	
	Johann	a			SWAN			
		Ŧ	est	Middle Initial		Fa	mily Name	
Residence	Scottsd			Arizona			JSA	
	*********		City		State/Foreign Country		Country of Citizen	ship
Post Office Addr	ess		19815 N. 84 th Way	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			A THE STREET ASSESSMENT	
include Zip Cod				 				
			85255	١.				
					on the attached pag porated herein by re	ference).	•	
					Atty.	Dkt. No.	PW 81674-24978	2

(M#)

(1) INVENTO	R'S SIGNATURE:			Date:	
	Brandon		C.	BARNETT	
		First	Middle Initi	al	Family Name
Residence	Beaverton		Oregon		USA
		City		State/Foreign Country:	Country of Citizenship
Post Office Ad	idress	10620 SW C	Priole Circle		
(include Zip C	ode)	97007			
(2) INVENTO	R'S SIGNATURE:	1/2-		Date:	8/13/2007
(2) 1100 2101 01	Joseph	100	F.	AHADIAN	
		First	Middle Initial		Family Name
Residence	Carlsbad		California	l	USA
		City		State/Foreign Country	Country of Citizenship
Post Office Ad	idress	2327 Pasee	Saucedal 75	78 GIBRALTAR	ST #5
(include Zip C	ode)	92009			
(4) INIVENTOR	R'S SIGNATURE:			Date:	
(I) INVENTO	Thomas		P.	THOMAS	
		First	Middle Initi	<u> </u>	Family Name
Residence	Beaverton	<u></u>	Oregon		USA
		City		State/Foreign Country	Country of Citizenship
Post Office Ad	idress	and the second s	old Canyon Lane		
(include Zip C	ode)	97006			
(O) IND(ENTO)	DIC CICNATURE:			Deter	
(2) INVENTOR'S SIGNATURE:				YOUNG Date:	
	l lall	First	Middle Initial		Family Name
Residence	Portland	rust	Oregon		Australia
		City		State/Foreign Country	Country of Citizenship
Post Office Ad	dress	3181 NW 11	4 th Terrace	Commence of the Commence of th	
(include Zip C		97229	1	······································	
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Atty. Dkt. No	o. PW 249782	P13702
	Attorney Ref.	Client Ref.

ASSIGNMENT OF U.S. ORIGIN PATENT APPLICATION (to Corporation) (or Limited Partnership)

Kishore CHAKRAVORTY, Johanna SWAN, Brandon BARNETT, Joseph AHADIAN, Thomas THOMAS

WHEREAS, the undersigned, to wit:

and lan '	YOUNG				
(hereinafter A	SSIGNOR), have made an inv	ention known	as Dkt.	PW 249782	_
and entitled:	A Fli-Chip Package Integrate Waveguide on a Board	ting Optical a	and Electrica	al Devices and Coupling to a	
for which an a	application for Letters Patent of	the United St	tates		_
🛛 was execu	ited even date herewith and is	about to be fil	ed in the Unit	ited States Patent and Trademark Offic	e;
was filed o	on , A	ppln. No.	1	<u> </u>	

AND WHEREAS Intel Corporation (hereinafter ASSIGNEE), a corporation duly organized and existing under the laws of the State of Delaware and having its principal office and place of business at 2200 Mission College Boulevard, Santa Clara, CA 95054, desires to acquire an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR, does hereby sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all improvements that are disclosed in the application for the United States patent that has been executed by the undersigned prior hereto or concurrently herewith on the dates indicated below and is entitled A Flip-Chip Package Integrating Optical and Electrical Devices and Coupling to a Waveguide on a Board and in and to said application and all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said ASSIGNEE may apply for and receive a patent or patents for said improvements in its own name; and that, when requested, without charge to, but at the expense of, said ASSIGNEE, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said ASSIGNEE, its successors, assigns, and representatives all facts known to the undersigned relating to said improvements and the history thereof; and generally assist said ASSIGNEE, its successors, assigns, or representatives in securing and maintaining proper patent protection for said improvements and for vesting title

covenant with said ASSIGNEE, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP of the above address to insert hereon any further identification necessary or desirable for recordation of this document.

Executed on the date(s) below indicated.

Each Inventor: Please Si	ign <u>and Date</u> Below:
5/21/2007	Kishne Kerman Chahravaly
/ Date	Name: Kishore CHAKRAVORTY

Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:

5/21, 2007
Date

	. •		
Each Inventor:	Please Sign <u>an</u>	nd Date Below:	
Date	_, 20	Name: Johanna SWAN	

	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	, 20
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
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Atty. Dkt. No.	PW 249782	P13702
	Attorney Ref.	Client Ref.

ASSIGNMENT OF U.S. ORIGIN PATENT APPLICATION (to Corporation) (or Limited Partnership)

WHEREAS, the undersigned, to wit:

(hereinatter ASSIGNOR), have made an invention known	as Dkt.	PW 249782		
	titled: A Fli-Chip Package Integrating Optical and Electrical Devices and Coupling to a Waveguide on a Board				
for which an application	for Letters Patent of the United S	tates			
⊠ was executed even o	late herewith and is about to be fi	led in the United	States Patent and Trademark C		
was filed on	, Appln. No.				

AND WHEREAS Intel Corporation (hereinafter ASSIGNEE), a corporation duly organized and existing under the laws of the State of Delaware and having its principal office and place of business at 2200 Mission College Boulevard, Santa Clara, CA 95054, desires to acquire an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR, does hereby sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all improvements that are disclosed in the application for the United States patent that has been executed by the undersigned prior hereto or concurrently herewith on the dates indicated below and is entitled A Flip-Chip Package Integrating Optical and Electrical Devices and Coupling to a Waveguide on a Board and in and to said application and all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said ASSIGNEE may apply for and receive a patent or patents for said improvements in its own name; and that, when requested, without charge to, but at the expense of, said ASSIGNEE, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said ASSIGNEE, its successors, assigns, and representatives all facts known to the undersigned relating to said improvements and the history thereof; and generally assist said ASSIGNEE, its successors, assigns, or representatives in securing and maintaining proper patent protection for said improvements and for vesting title

covenant with said ASSIGNEE, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP of the above address to insert hereon any further identification necessary or desirable for recordation of this document.

Executed on the date(s) below indicated.

	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	Date
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND

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Each Inventor: Please Sign and Date Below:

		Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below	y:	, 20
Date Name: Bran	ndon BARNETT	
		Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below	v:	, 20
Date Name: Jose	ph AHADIAN	·
		Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below	w:	, 20
Date Name: The	mas THOMAS	
		Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Belo		, 20 Date

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Atty. Dkt. No.	PW 249782	P13702
	Attorney Ref.	Client Ref.

ASSIGNMENT OF U.S. ORIGIN PATENT APPLICATION (to Corporation) (or Limited Partnership)

WHEREAS, the undersigned, to wit:

(hereinafter ASSIGNO	OR), have made an invention known	n as Dkt.	PW 249782		
Waveg	juide on a Board				
for which an application	on for Letters Patent of the United S	States			
was executed ever	n date herewith and is about to be f	iled in the United	States Patent and Trademark Offi	ice;	
was filed on	, Appln. No.	1	. •		

AND WHEREAS Intel Corporation (hereinafter ASSIGNEE), a corporation duly organized and existing under the laws of the State of Delaware and having its principal office and place of business at 2200 Mission College Boulevard, Santa Clara, CA 95054, desires to acquire an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR, does hereby sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all improvements that are disclosed in the application for the United States patent that has been executed by the undersigned prior hereto or concurrently herewith on the dates indicated below and is entitled A Flip-Chip Package Integrating Optical and Electrical Devices and Coupling to a Waveguide on a Board and in and to said application and all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said ASSIGNEE may apply for and receive a patent or patents for said improvements in its own name; and that, when requested, without charge to, but at the expense of, said ASSIGNEE, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said ASSIGNEE, its successors, assigns, and representatives all facts known to the undersigned relating to said improvements and the history thereof; and generally assist said ASSIGNEE, its successors, assigns, or representatives in securing and maintaining proper patent protection for said improvements and for vesting title

covenant with said ASSIGNEE, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

NOTE: The undersigned hereby authorizes PILLSBURY WINTHROP LLP of the above address to insert hereon any further identification necessary or desirable for recordation of this document.

Executed on the date(s) below indicated.

	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	, 20 Date
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	, 20

	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below: 4-23, 2002 Date Name: Brandon BARNETT	<u>식 - 공 3</u> , 20 <u>순 공</u> Date
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	Date
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below: 5 / 14 , 20 02	5 / 14 , 20 02 Date
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:

Each Inventor: Please Sign and Date Below:

5/14/, 2002

January Law Young

Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:

5/14, 2002
Date

Atty. Dkt. No. PW 249782 P13702

Attorney Ref. Client Ref.

ASSIGNMENT OF U.S. ORIGIN PATENT APPLICATION (to Corporation) (or Limited Partnership)

WHEREAS, the undersigned, to wit:

Kishore (and lan \	·	nna SWAN, Brand	don BARNETT, Jo	oseph AHADIAN, Thoma	s THOMAS
(hereinafter A	SSIGNOR), have made	an invention kno	wn as Dkt.	PW 249782	
and entitled:	A Fli-Chip Package I Waveguide on a Boa	• • •	al and Electrical	Devices and Coupling	to a
for which an a	pplication for Letters P	atent of the United	d States		
was execu	ted even date herewith	and is about to b	e filed in the Unite	ed States Patent and Tra	demark Office;
⊠ was filed o	May 30, 2002	, Appln. No.	10/158,250	;	

AND WHEREAS Intel Corporation (hereinafter ASSIGNEE), a corporation duly organized and existing under the laws of the State of Delaware and having its principal office and place of business at 2200 Mission College Boulevard, Santa Clara, CA 95054, desires to acquire an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR, does hereby sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all improvements that are disclosed in the application for the United States patent that has been executed by the undersigned prior hereto or concurrently herewith on the dates indicated below and is entitled A Flip-Chip Package Integrating Optical and Electrical Devices and Coupling to a Waveguide on a Board and in and to said application and all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filled in the United States and all foreign countries on any of said improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filling of said United States application;

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PW 249782/ P13702

covenant with said ASSIGNEE, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

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Executed on the date(s) below indicated.

	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	, 20 Date
Date Name: Kishore CHAKRAVORTY	
,	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	, 20

	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	, 20 Date
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below: 8/13, 2002 Name Joseph AHADIAN	8/13 , 2002 Date
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
Each Inventor: Please Sign and Date Below:	, 20
	Inventor: Please also list the date that you signed the accompanying DECLARATION AND POWER OF ATTORNEY:
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